

## MIXING ROTARY POSITIVE DISPLACEMENT PUMP FOR MICRO DISPENSING

### ABSTRACT OF THE DISCLOSURE

5 A dispensing apparatus, which is capable of delivering precise quantities of a liquid product less than one mm<sup>3</sup> in size, includes a drive mechanism, a housing made up of at least two input channels coupled to a chamber made up of a first portion and a second portion. First and second component liquids are delivered via the first and second input channels respectively to the chamber and the first and second input  
10 channels are disposed so that interaction is hindered between the first component liquid and the second component liquid in either input channel. At least one feed screw with a helical thread is disposed in the chamber such that when the at least one feed screw is rotated by the drive mechanism the first and second component liquids are mixed to form a liquid product and the feed screw rotation also discharges the  
15 liquid product from the chamber.